Thierno Bah

Washington DC

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**Career Objective:**

Over 8 years of experience in corporate **Unix/Linux/Security Systems Administrator** with a history leading collaborative teams. Bilingual professional with fluency in French, English, and strong math analytical skills. Experience in Project Management with data and implementing innovative solutions, safeguarding company assets to successfully achieve strategic and planning goals.

**Certifications:**

Oracle Certification Associate (Solaris 10 Operating System)

(With a strong passing score 94 % over 50%) Oracle University California

AWS Certified Solutions Architect – Associate (SAA)

Microsoft Certified Azure Administrator

Microsoft Certified Azure Fundamentals

Tanium Certification (Tanium Operations & Security Essentials)

CompTIA Security +

Containers, Kubernetes, and Red Hat OpenShift Administration

Red Hat Certified System Administrator in progress

Active Public Trust Clearance

**Technical SKILLS:**

**Operating Systems**:

Red Hat Enterprise Linux v6, v7 and v8, VMware, Solaris 10, Windows server 2008, 2012

MySQL, Centos and Red Hat v6, v7 and v8, Docker Container, Jenkins, Maven, Terraform, Ansible, Git, Satellite, CI/DC

Ansible Tower, Deployed web application Apache, Tomcat, Nginx, Mainframe, Splunk, Prometheus Grafana, Kibana, Elasticsearch, SolarWinds, NetBackup, ServiceNow, WebLogic, FISMA, NIST Standard, STIGs, ELK, NIFI application on Docker containers. Kubernetes, and Red Hat OpenShift, Azure RedHat OpenShift (ARO)

**National Institutes of Health (NIH)**

**Sep2020 – Present**

**Senior Linux Engineer/ DevOps Engineer**

* Managed critical application hosted on production server such as Tomcat, Apache,
* Configuring Datadog URL monitoring
* Upgrading PHP from v7.4 to v8.x
* Remediating log4j and upgrading OpenJDK
* Migrating an application to ARO (Azure Red Hat OpenShift) such as:
* Evaluating application architecture, dependencies, and compatibility with ARO
* Conducting a thorough assessment of your infrastructure, considering factors such as networking, storage, security, and compliance requirements
* Creating a detailed migration plan outlining the steps involved, timeline, and responsible stakeholders
* Containerizing application using Docker
* Optimizing application for resource utilization to ensure efficient use of CPU, memory, and storage resources on the ARO cluster
* Implementing autoscaling to automatically adjust resources based on demand to avoid over-provisioning or under-provisioning
* Configuring networking appropriately to ensure that application can be accessed both internally and externally as required
* Choosing the appropriate storage solution based on customer application's needs, such as Azure Disk, Azure File, or Azure Blob Storage
* Implementing security best practices such as RBAC (Role-Based Access Control), network policies, and encryption to protect your application and data.
* Using network policies to control traffic flow and enforce security policies within the ARO cluster
* Implementing SAML (Security Assertion Markup Language) IdP to transfer authentication data
* Using Tenable to run scan for Vulnerabilities
* Upgrade application to remediate vulnerabilities
* Migrating application from RHEL7 to RHEL8 such as Bitbucket, Xray, Artifactory etc
* Using FedRAMP Compliance for security assessment, authorization for application in the Azure Cloud.
* Deployed packages to VMS with different distribution and versions using Ansible modules such as Conditional with loop, with\_items, debug, Ansible facts, Ansible register to register outputs commands
* Used Ansible Error Handling such as task failure
* Write Template using Jinja2
* Configured and Writing Ansible Playbooks using Roles such as Ansible-Galaxy
* Writing multiple Playbooks using Firewalld module, Cron module to schedule script, Logical Volume module, Users module, Groups module, Filesystem Module, Replace module, Archive module etc.
* Configured Privilege Escalation on Managed Nodes Using Ansible
* Configured Ansible Variables such as host\_vars group\_vars, include\_vars, include\_tasks, ignore\_errors, and Dynamic Inventory
* Using and ansible register to get the output parameters and passed it in the following input
* Writing Variables and Facts using Ansible Playbooks
* Deployed Security policies, customized configuration of servers
* Using Configuration management tool to make changes in a standardize way to minimize configuration drift
* Built and deployed application on RHEL8 from scratch such Jira, Artifactory, Xray etc
* Deployed Containerized Application on OpenShift
* Troubleshooted OpenShift Clusters and Applications
* Controlled Application Permission with Security Constraints
* Troubleshooted and Configured OpenShift Networking for Applications
* Controlled Pod Scheduling
* Created Kubernetes Resources
* Created Routes and Exposed a Services as a Route
* Created Application with Source-to-Image
* Deployed a Multi-Container Application on OpenShift
* Provisioned Containerized Services
* Managed Containers
* Attached Persistent Storage to Container
* Managed Container Images and Created Custom Container Images with Containerfiles
* Plan for, create and scale virtual machines
* Implement Azure storage account, blog storage, Azure files, and shared access keys.
* Configure virtual networks including planning, IP addressing, Azure DNS, and network security groups
* Configure data replication and backup files, folders, and virtual machines
* Configure connectivity solutions like VNet Peering, VNet-to-VNet connections, Site-to-Site connections, and ExpressRoute.
* Manage network traffic using service endpoints, network routing choices, Azure load balancer, Azure Traffic Manager, and Content Delivery Network
* Manager Subscription accounts, users, groups, and billing. Implement Azure polices.
* Implement Azure Active Directory and Azure Active Directory and AzureActive Directory Connect.
* Share data using the Import and Export service, Data Box, and File Sync
* Monitor Azure infrastructure with Azure Monitor alerts, log Analytics, and Network watcher
* Secure identities with MFA, Azure AD Identity Protection, AD Join, and Self-Service Password Reset
* Deployed and Configured application RStudio. Bonita etc
* Patched Linux Operating System using satellite
* Worked on Splunk to gathered information for logs and setup alerting
* Used Prometheus and configured for alerting
* Remediated Vulnerabilities log4j etc. remove JRE and installed OpenJDK v8, v11
* Updated python and write python script, bash script
* Deployed Packages using ARO and Jinkins CloudBees
* Used Splunk to monitor logs and send alerts
* Update Tomcat to the latest version 8. and 9
* Migrated Tomcat 8 to 9, 11 and troubleshoot Catalina
* Migrated Red Hat 6 to 7 and 8
* Troubleshooting and managed Jenkins CI/CD pipeline jobs.
* Setup Continuous Integration, Continuous Delivery and Continuous Deployment.
* Writing Shell Scripts to manage Jenkinsfile
* Configured Jenkins Pipeline to run workload using Build Agents
* Setup the Build Agents, Stages, stage and steps in the Jenkinfile
* Build a multistage pipeline or each stage with Jenkinsfile
* Using Jenkins Folder for Containers such as Docker etc.
* Installed Jenkins Plugins and Build Agents.
* Using Continuous Integration Jenkins pipeline to Build Code, Run Tests, unit test, integration test, smoke test.
* Worked on different type of Jenkins such as Cloudbees Jenkins, Blue Ocean
* Configured Jenkins Security such as Users and Access Control
* Managed and enabling security in Jenkins such as Configure Global Security, Security pipeline Matrix
* Performed compatibility testing provided software and hardware support for Linux OS.
* Analyzed and tested critical factory application such Web-based, Java, Tomcat, Apache
* Managed application patches, data backup, security changes and network configuration
* Diagnosed network problems involving a combination of hardware, software and Network issues.

**Library of Congress**

**Sep2018-Sep2020**

**Senior Linux Engineer**

* Managed servers hosting critical applications.
* Cloud Transformation involving migration of existing IT infrastructure to Cloud platforms (Azure, AWS).
* Documentation:
* Create comprehensive documentation, including:
* Architecture diagrams
* Resource configurations
* Security policies
* Operational procedures
* Testing:
* Perform thorough testing of the architecture, including:
* Load testing
* Security testing
* Disaster recovery testing
* Make necessary adjustments based on the test results.
* Deployment and Automation:
* Automate deployment processes using AWS CloudFormation or AWS Elastic Beanstalk.
* Implement Infrastructure as Code (IaC) best practices.
* Migrating Big Data workloads.
* Deploying Database servers on AWS services:
* RDS (Relational Database Service)
* Aurora
* Amazon Redshift
* ElastiCache
* NoSQL DynamoDB
* Designing Global Database Systems as part of the transformation process.
* Creating CSR Certificates.
* Installing and Configuring Tomcat.
* Installing necessary software packages.
* Create Shell Scripts that run ad hoc
* Customized Ansible Configuration files such Dynamic Inventories
* Deployed packages to more than 800 VMS with different distribution and versions using Ansible modules such as Conditional with loop, with\_items, debug, Ansible facts, Ansible register to register outputs commands
* Used Ansible Error Handling such as task failure
* Write Template using Jinja2
* Configured and Writing Ansible Playbooks using Roles such as Ansible-Galaxy
* Writing multiple Playbooks using Firewalld module, Cron module to schedule script, Logical Volume module, Users module, Groups module, Filesystem Module, Replace module, Archive module etc.
* Configured Privilege Escalation on Managed Nodes Using Ansible
* Configured Ansible Variables such as host\_vars group\_vars, include\_vars, include\_tasks, ignore\_errors, and Dynamic Inventory
* Using and ansible register to get the output parameters and passed it in the following input
* Writing Variables and Facts using Ansible Playbooks
* Deployed Security policies, customized configuration of servers
* Performed system patching as patched are release by vendors.
* Worked with vulnerabilities assessment and remediation in a mixed environment such as Security Audit, Technical implementation Guidelines (STIGs) and Security Content Application Protocol (SCAP).
* Experience with NIST Standard, FISMA validation and implementation
* Implemented and configured FreeIPA with LDAPs
* Deployed and Configured Elasticsearch, Kibana and Logstash for monitoring
* Configured Ansible automation tool to manage and deploy applications.
* Designed Terraform to deploy Infrastructure.
* Software configuration management (automate CI & CD pipeline using Jenkins, Ansible, Git and Docker)
* Working on SonarQube for code quality and generating the reports
* Performing build activities using Maven and Jenkins tools to compile, test, install and deploy applications.
* Configuring Jenkins jobs, install plugins for generating projects artifacts.
* Configured LDAPS with SSL or TLS
* Implemented Role assignment and configured Computer Roles for Centrify
* Imported exiting Unix Profiles to Centrify such User Profiles, Group profiles and Service Account.
* Configure Centrify Identity service for Multi-Factor Authentication (MFA)
* Designed and managed firewall
* Wrote bash scripts.
* Configure system auditing services and review audit reports
* Configuring passwordless such as ssh-keygen
* Configure network port security to permit and reject access to network service using
* advanced SELinux and firewalled filtering techniques by:
* Managing firewall using firewall-cmd, and the graphical tool “firewall-config”
* Configure more complex firewall using “rich language rules”
* Manage system login security using Pluggable Authentication Modules (PAM)
* Providing Top Secret support, troubleshooting, analysis and processing requests
* Worked on Identity access management.
* Deployed Automation installation of Tanium Client on Linux Endpoints
* Generating CSR Certificate and Revoke PKI certificate
* Used Python, Git, Apache, MySQL and NodeJS 8
* Configured Centrify and Multifactor Authentication and Identity Access

**Census Bureau /CSVD CTR/**

**May2016- Sep2018**

**Unix/Linux Senior System Engineer**

* Designed, managed, and troubleshoot network issues.
* Applied solid technical abilities, analytical, problem-solving skills.
* Performed Operation System upgrade and migration of legacy system.
* Performed system maintenance, backup, monitoring and fine tuning.
* Deployed NetBackup Solution
* Configured and used existing LDAP credentials for Single Sign-On
* Act as liaison between Unix and Security Team to remediate OS and application Vulnerabilities.
* Managed and Configured Database Services
* Deploy ec2 instances using Terraform automation
* Administer Azure using the Azure portal, cloud Shell, Azure PowerShell, CLI, and ARM Template
* Troubleshooting False maintenance mode in Citrix
* Migrated Data usingPVD Migration.
* Re-registered the VDI desktop in theCitrix Studio.
* Created newPvS VMS using XenDesktopsetup Wizard.
* Rebuilt Activation Tokens file in Windows 7
* Deployed an ESXI host and VMware vCenter Server appliance.
* Monitored and Configured Citrix Studio**.**
* Maintained the health of the systems, and troubleshooting network issues, also worked in the Datacenterfixing issue with the blade servers such as AMMI, firmware upgrade errors or failures.
* Installed with provisioning virtual servers in VMware (ESXi v5; v6)
* Built and supported Red Hat Linux v6 and v7 and Solaris 10servers and such as creating users, modifying permissions, creating groups, granting SUDO permissions, and allocating storage and file systems.
* Installed applications, and tools to monitor process on Linux System and Solaris 10 system such asNagios,VmStat, Top, Htop, Wireshark, Tcpdump
* Hardening, Patching (Solaris 10 using 10-Recommended patches, and Linux system using Yum), and upgrades (release), on a standalone server (using single user mode), and production servers (live upgrade)
* An understanding TCP/IPnetworking
* Troubleshooting and building servers such as DNS, DHCP, NFS, CIFS, MySQL, Samba, LDAP, Apache**.**
* Installed and managed Active directory on Windows server 2008
* Configured a System to ForwardLog Messages and Manage iptables Rules.
* Configuring, maintaining, and scheduling process such as crontab, PS Anacron, top
* Performed and wrote Bash Shell scriptingto schedule and automate processes including using tar.
* Performed multiplatformvolume management on Linux and Unix system including Net Backup application support and performance tuning using SVM, LVM, ZFS, VERITAS, SWAP, NAS (FREE NAS) used for creating LUNS and used iSCSi for Solaris system.
* Setup whole root Zones/ Containers on Solaris 10 for application management, migrating Zones paths and complete Zones to other platforms.

**Responsibilities:**

I am responsible for supporting Red Hat Linux and Solaris servers in the Non-Production and Production environment, as well as processing user support requests. The environment consists of 1500 physical and virtual servers. Consisting of Linux, Solaris, and Windows servers.

The responsibilities include (but are not limited to), provisioning physical and virtual servers, processing server support tickets, performing software installations, patching, and general troubleshooting.

**Education:**

**University of Kofi Annan – Guinea**

**B.A. Degree of Science in Economics and Statistics**